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(54) EXHAUST GAS PURIFYING ELEMENT, PRODUCTION THEREOF AND METHOD FOR PURIFYING NITROGEN OXIDES

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain an exhaust gas purifying element capable of efficiently removing nitrogen oxides from the exhaust gas of combustion, etc., containing excessive oxygen by depositing an oxide thin film on a cathode electrode of the element consisting of an electrode and a solid electrolyte.

SOLUTION: This exhaust gas purifying element is formed by depositing a crackles oxide thin film on the cathode electrode of the element consisting of the electrode and the solid electrolyte. As the oxide, CaTiO_3 , LaCoO_3 , SrFeO_3 , multiple oxides represented by the composition of $\text{La}_{1-y}\text{Sr}_y\text{Mo}_{3-z}$ ($0 \leq y \leq 1.0$; $0.1 \leq z \leq 0.5$; $\text{M} = \text{Co}, \text{Cu}, \text{Fe}, \text{Mn}$) and being substituted derivatives thereof, and $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ ($0 \leq x \leq 0.8$) are exemplified. Also the film thickness of the oxide thin film deposited on the electrode is preferably defieced as $0.1\text{-}10\mu\text{m}$, more preferably as 0.1 to about $2.0\mu\text{m}$.